THE ZOOLOGIST.

THIRD SERIES.

VOL. VI.] OCTOBER, 1882. [No. 70.

THE ZOOLOGY OF THE VOYAGE OF 'THE EIRA.'

ON the 14th June, 1881, Mr. Leigh Smith, emulating the exploits of previous arctic explorers, sailed from Peterhead in his steam yacht 'Eira,' a vessel of 260 tons, 125 feet long, with a beam of 25 feet, and driven by engines of 50 horse-power. Two months later, when made fast to a land-floe off Cape Flora, the ice pressed so heavily around as to cause a leakage. With such rapidity did the water find ingress that the pumps could not work fast enough. The owner and crew, twenty-three in number, were compelled to abandon the yacht and take to the boats, and shortly afterwards the vessel foundered.

That night they camped out upon the ice, rigging up a tent with oars and sails, and the next day reached the mainland. Here they were compelled to pass the winter, in a hut of stones and turf, which they roofed with sail-cloth. The weather they experienced is described as terrible. A succession of heavy gales compelled them to keep watch night after night, holding on to their house lest it should be blown away, while floods of freezing rain at times completely swamped them.

For nearly twelve months did they endure these hardships, buoyed up with the hope that the ice would break up, and enable them to undertake a boat voyage towards the south. Being unable to procure fuel, they were compelled to feed their fire with blubber and old rope, and had to choose between

suffocation for want of an outlet for smoke, or intense cold for want of a fire.

Fortunately there was no want of fresh meat—twenty-nine Walruses and thirty-six Bears were killed and eaten. A dog which they had with them proved most useful in giving notice by growls of the presence of a Bear or Walrus, and on one occasion saved the lives of the whole crew, who were starving, by leading them to where three Walruses were lying on the ice.

Thus the months passed wearily until, in the month of June last, a gale cleared away the ice, and enabled four boats to start from Cape Flora, provisioned for sixty days. Pushing southward they occasionally met with water, but sometimes had to rest for days upon a floe, until after six weeks' hardship they reached open water, and were then enabled to shape their course for Nova Zembla, where, on August 2nd, in Matotchkin Straits, they met the relief expedition which had gone in search of them.

Thus, after being ice-bound for twelve months, they arrived safely in port, without the loss of a single life, and with no worse a result of the undertaking than the loss of the yacht, and the serious anxieties and fears experienced for a whole year by relatives and friends at home.

Owing to the wreck of the vessel, the owner states that the scientific results of the voyage are almost *nil*. The following extract, however, from the journal written at Cape Flora will be read with interest, as containing an account of the principal mammals and birds observed during the period of imprisonment on that ice-bound Cape:—

"On July 25th, 1881, we reached Gray Bay, at Cape Grant and Cape Crowther. There are large loomeries a short distance up the bay on the water side. Many Rotches (Little Auks) had their young among the basaltic columns of the lofty cliffs. Other birds were also seen, including the Snow-bird (Ivory Gull), the Molly, the Boatswain (Common Skua), the Arctic Tern, Dovekies (Black Guillemots), the Eider Ducks, the Burgomaster (Glaucous Gull), and the Kittiwake. At the east side, near the head of Gray Bay, there were a good number of Snow-birds and Dovekies building, but too high up for one to obtain the eggs. At Cape Stephen there was a large loomery, and at Cape Forbes a few Looms (Guillemots), a number of Rotches and Dove-

kies, and some Snow-birds. At Bell Island the same species of birds were seen, and on the south side there was a large loomery, and nests of Kittiwakes, Dovekies, Rotches, Snow-birds, and Burgomasters. Rain Geese (Red-throated Divers?) and Brent Geese were seen and shot on the cliffs 700 feet high, but no nests were seen. At Cape Flora there was a very large loomery, and also many Rotches, Dovekies, Kittiwakes, and Snow-birds. On the lowlands several Snow Buntings and Sanderlings were seen, but no nests were found. The Looms lay their eggs on the bare rock, and the Dovekies and Rotches lay them in the crevices of the rocks. The Kittiwake makes a nest of mud and moss. The Snow-bird makes a rudimentary nest of moss and feathers, but of no definite shape. Each species seems to occupy a separate part of the cliff.

"The Rotches and Dovekies left about the first week in September. Looms were very scarce after September 10th. On September 22nd a few Burgomasters, Snow-birds, Mollies, Kittiwakes, Eider Ducks, and Brent Geese were seen, but were getting very scarce. One or two Snow Buntings still remained on the land on October 13th. Three or four Snow-birds, and occasionally a Burgomaster or Molly, were seen hovering around outside the hut which had been erected, and on October 28th, whilst we were killing some Walruses, two Snow-birds and two or three Mollies and Burgomasters were seen, and remained for two or three days eating the refuse of the carcases.

"On February 8th a Snowy Owl was seen: this was the first bird to arrive. On February 18th two or three flocks of Dovekies were noticed following to the north-west, and on the 20th there were a great number seen in the water. On March 2nd a lane of water was made close to the land-floe, and it was filled with Rotches and Dovekies. On March 9th the first Loom was seen, but it was not until the end of March that they began to settle on the rocks, and then they would only stop on the cliffs for a few hours, and go away for four or five days. We were not able to get up the hill to shoot any until April 16th. On the 20th the first Snow-bird was seen. A Falcon appeared on April 22nd, on which day two Burgomasters were also seen. On April 24th the Molly was seen, and on May 6th the Kittiwakes came. It was not until about June 10th that the Looms remained on the rocks for more than two or three days at a time, but after that date the

females began to take their places ready for laying their eggs, and on June 20th three eggs were obtained.

"Foxes were constantly troubling us during the winter, coming right up to the door after blubber, and would only run a few yards when anybody went out to drive them off; we were obliged to shoot some at last, as they became almost tame. Bears were more numerous whilst we had the water close outside the land-ice; they would come walking along the edge of the land-ice, and when they got scent of the house would walk right up to it. During the dark we killed four or five every month, except November; but we saw on an average two a week. One moonlight night, in November, there were five or six Bears within four hundred yards of the house, but we could not get a shot at any of them, unless we kept very still until the Bear came up to the house. We never shot a female Bear from October to March 13th. This is an important fact. They were always very large males. Several times, on examining the contents of the stomachs, we found them full of nothing but grass, but in spring they generally had been feeding on Seals, and more than once we obtained a good bucketful of oil for cooking purposes out of a Bear's stomach. Once a Bear had eaten a large piece of greasy canvas which had been thrown away, and had been blown some two or three hundred yards from the house; he then came up to the house and commenced to eat our blubber, but was immediately shot. On February 20th a Bear was seen about 350 feet above the hill at the back of the house. Some hands went up with a rifle, and found that it had a hole there, out of which they could not get it, fortunately for them, as they had only one rifle with them, and that would not go off, the lock having been frozen: we saw no young one with it. The last time this Bear was seen at its hole was on March 1st. No track could be traced up the hill, but the footmarks of an old Bear and a cub were seen on the low land, about 300 yards to the eastward of the house. No old she Bears with young cubs were seen before we left the land in June.

"In July, 1881, on nearing Cape Crowther, Walruses were seen lying on loose pieces of ice in great numbers. Sometimes twenty or more were counted, huddled up in a heap on a small piece of ice. By going quietly in a boat you could get within twenty or thirty yards of them before they took much notice of

you; but after the first shot was fired they tumbled into the water, and would go swimming about and barking round the boat, but never attacked us. In September they were very numerous on the loose ice round Bell Island, and also in the water round Cape Flora. On October 28th five were shot lying on the edge of the ground-ice close to the house, and there were great numbers in the water at that time of the year. On January 24th, 1882, three were shot lying on the ice-edge. When the daylight returned in February Walruses were constantly seen swimming about in the water. A land-floe began to form in March, and no water remained within seven or eight miles of the land, but frequently on looking with the glass from the hill Walruses could be seen in the water. On June 13th the land-ice broke away, and on the 15th five Walruses were shot. A boat that went over to Bell Island reported Walruses lying in scores on the loose ice round about. It is probable that they leave the country during the winter, but seem to remain in the water, especially if it is shallow. We never saw any signs of their taking the land and lying up for the winter.

"White Whales and Narwhals were seen in great numbers in September and October travelling to the south-east, and in June one or two large shoals were seen travelling west and west-north-west."

"The object of Mr. Leigh Smith's expedition," to quote the words of Mr. Clements Markham ('Nature,' Aug. 31st), "was a reconnaisance to accumulate evidence respecting the advantages offered by Franz Josef Land as a base of operations for future exploration. He did not intend to winter; but the accident which forced him to do so had the useful result of enabling him to extend his observations over two seasons. The knowledge he thus acquired of the movements of ice, of its character along the shores and in the fiords for sledging purposes, of the prevailing winds and currents, of the amount of animal life to be obtained in the different months, will be very useful. This knowledge will be welcomed by the geographical student, and will also be of value to future explorers. The loss of the natural history collections is to be regretted, but the main object of Arctic exploration is geographical, and that object has been fully secured."

ORNITHOLOGICAL NOTES FROM NORFOLK FOR 1880.

By Henry Stevenson, F.L.S.

I much regret that, through ill health and other causes, my Ornithological Notes for 1880 have been so long delayed; but I send them, even thus late, for publication, rather than break the series which for so many years has found a place in the annual volumes of 'The Zoologist.' I hope shortly to complete those for 1881.

January.

Bernicle Goose.—On the 6th five out of a flock of seven of this by no means common species were shot at Horsey. The weather was exceptionally mild at the time, but they had, no doubt, like those recorded in February, 1879, been driven to our coast during the severe frost earlier in the season.

Little Grebe.—During the frost a Little Grebe was taken alive on the shore at Blakeney, and another at Mr. Buxton's residence at Fritton was found consorting with the domestic fowls, evidently "hard up" and frozen out from the Broad. One Norwich birdstuffer had five.

Great Spotted Woodpecker.—An adult male was killed at Holkham about the 30th, and during the month Mr. F. E. Bird shot a female at Winterton decoy.

White-fronted Goose.—A female bird of this species, somewhat small in size but well barred on the under parts, was shot on Breydon on the 5th.

Brent Goose.—Mr. F. Norgate thus describes a singular variety of the Brent Goose (a male bird, killed by Mr. Capps, at Blakeney, about the end of January), which he first saw on April 27th, in the hands of Mr. Dack, a birdstuffer, at Holt:—"The plumage of the upper and under tail-coverts, vent, and cervical ring are white; the breast, head and quills are greyish brown; the rest of the plumage is very pale brownish grey, almost the colour of *Columba risoria;* the irides (glass) are blackish brown; legs, toes, claws, webs, beak and nail are just painted pinkish red." Dack assured him he had taken pains to colour these parts exactly as they were naturally, and believed he had succeeded as near as he possibly could with paint.

February.

Glaucous Gull.—An immature female of this species was killed at Yarmouth, on the 8th.

Grey Crows.—These pests to the game preservers, both here and in Scotland, are, according to Mr. J. H. Gurney, jun., rendering themselves additionally objectionable by devouring the barley thrown down for Pheasants. He has himself driven them off the grain at one or two feeding spots at Northrepps, and the keeper at Hempstead killed six, at one shot, that he had watched this month committing similar depredations.

White-fronted Goose.—About the middle of the month another bird of this species was sent up to Norwich, killed on Breydon.

Bewick's Swan.—Mr. J. H. Gurney, jun., recorded in 'The Zoologist' for 1880 (p. 139) the capture of two specimens at Hempstead on the 18th. These birds had frequented one of the ponds for some days, and were supposed by the keeper to be tame Swans escaped from other preserved waters. On this occasion, however, their musical notes attracted Mr. Gurney's attention, and on approaching them, they rose slowly on the wing from the shallow water where they had been standing. Owing to the closely surrounding timber one in its flight struck its head against a tree and fell, and on being run down and secured, was found to have destroyed one eye; the other bird was lost sight of for a time, but later on was found and shot on an adjoining pond. They proved to be male and female, and weighed exactly the same, only 9¾ lbs., though fully adult in plumage. The disposition of colour, on the bill, also marked maturity, and a sexual distinction was remarked in that feature. "In the female the yellow did not extend over the ridge of the upper mandible, which ridge was black, slightly mottled with yellow; the same part in the cock bird being entirely yellow." In the gizzard of the latter, besides small stones, "silt," and pond-grass, were found legs of water insects and the *tail of a small fish*. They measured 5 ft. 10 in. from tip to tip of wing. Of four Bewick's Swans that appeared on Breydon about the 14th of February, three, as I was informed, were shot, and Mr. Gurney heard of one killed about the same time near Saxmundham, in Suffolk. On the 28th I also purchased, in the flesh, an adult male, one of four that made their appearance on Rockland Broad a few

days before. In this bird there was a slight trace of black on the ridge of the base of the upper mandible, but in Mr. Gurney's male, as before stated, the yellow colour extended to the extreme base of the bill.

March.

Yellowhammer.—A curious variety, just netted, was shown me on the 1st, the prevailing tints of the plumage being very light and, in parts, white, with scarcely a trace of yellow.

Kittiwake.—A straggler from the coast, in full adult plumage, was picked up dead (but in a perfectly fresh state), in a marsh at Surlingham, on the 6th.

Sparrowhawk.—A beautiful adult red male of this species was brought to me by a birdcatcher on the 27th, who had secured it in his nets after it had struck at, and killed, two of his "call" birds. Mrs. Helmer, of Wacton, near Long Stratton, also sent me, on the 20th, a young male which had killed itself by contact with a plate-glass window, but not, I believe, attracted by any cage-bird in the room.

Lesser Spotted Woodpecker.—An adult male was killed near Letton, about the 20th of this month.

April and May.

Siskin.—In 'Land and Water' for April 3rd, 1880, Mr. Gunn records the recent capture, by a birdcatcher at Eaton, near Norwich, of a cock Siskin with a white instead of black cap to its head.

Hoopoe.—One of these rarities, now-a-days, was, I learn from Mr. Gurney, shot at Martham on April 26th.

Ring Ouzel.—An adult male, with a conspicuous white crescent on the breast, was seen on the 11th of May, by Mr. B. C. Silcock, in the parish of Brumstead.

Avocet.—On April 12th a specimen was shot at Yarmouth, and in the second week of May I was informed that a second narrowly escaped the Yarmouth gunners, having to thank its own wary instincts, and not the "New Act," for its safety.

Whooper.—About the 10th of May a single Swan of this species, having put in a late appearance, was killed at Yarmouth.

Woodcock's Nest.—Mr. F. Norgate informs me that on the 3rd of May a Woodcock flew from her nest of dried leaves, which

was placed in a bed of *Mercurialis perennis*, in a plantation at Weston. The four eggs were just chipped when he saw them.

Hybrid Dove.—On the 14th of May, 1865, a hybrid Dove—a cross between *Columba turtur* and *C. risoria*—was caught in my garden in the Newmarket Road, and as no owner could be found for it at the time, was kept in my house as a cage-pet till its death, on the 14th of May, 1880, just fifteen years to a day from the date of its capture. How old this bird was when I first had it, I have no means of judging, as it was then in fully adult plumage, and continued in perfect health till within a week of its death, which was caused by a severe cold affecting the lungs, but without showing the slightest indication of failing powers from advanced age. This bird exhibited many characteristics of both parents in its plumage, but inclining more particularly to *C. turtur* in the usual patch of black and white feathers on either side of the neck. Its note was peculiar, having a loud and resonant "coo," differing from that of either the domestic or migratory Dove; it was said by some people to resemble the note of the Cuckoo.

Tufted Duck and Pochard.—Mr. W. E. Clarke communicated to me the fact that both these species, with Shovellers, were found nesting on the various meres of the Wretham estate, between the 16th and 19th of May. Two pairs of Tufted Ducks were seen, and, on the 17th, a nest of six eggs was found, the old bird rising close by. The nest itself was composed of grass, but without down, and was placed in a tuft of herbage within six yards of the water's edge. Of Pochards, fifteen cock birds were counted on two of the meres, and two nests of six and seven eggs, respectively, were found on a small island on one of them on the 19th. Shovellers were numerous, and a nest of six eggs was discovered on the same island, and another on the heath, half a mile from the water, which contained eight eggs.

Great Crested Grebe.—Many pairs of these birds were met with on the different pieces of water, especially on the Decoy mere, affording sheltering reeds, but only one nest was found, with three eggs partly incubated.

Common Sandpiper.—The same informant states that he saw a pair of these birds on the 17th, and another pair on the 19th, on the margins of two of the meres on the open heath, which, from so late an appearance, seemed to suggest their remaining to breed. This species, however, has never been known to nest in Norfolk.

Heron nesting at Hempstead.—Mr. J. H. Gurney, jun., records in 'The Zoologist' for this year (p. 366) the fact of a single pair of Herons having nested for the first time at Hempstead, near Holt. The nest was discovered in a medium-sized Scotch fir, in the heart of a considerable plantation of similar trees. Attention was drawn to the nest from one of the old birds being, unfortunately, found dead at the foot of the tree, with broken egg-shells. The young were not seen.

Norfolk Plover.—I was glad to hear that this species was in some numbers about Thetford this summer (1880), and that several nests were found on the 16th of May, both on the heath and the cultivated lands adjoining.

Bee-eater.—The Rev. Kirby Trimmer, of Norwich, was informed by his brother, who resides at Billingford, near North Elmham, that, on the morning of the 19th of May, he saw an undoubted specimen of *Merops apiaster* alight, apparently in an exhausted state, on some iron railings in his garden. After resting for some little time, it flew to a shrub that was in flower, passing from blossom to blossom, as if seeking for insects, and then took wing, flying off in an easterly direction, and was not seen again. I know of no occurrence of this species in Norfolk since June, 1854; but it is worth notice, in connection with the above occurrence, that in 'The Field' of July 3rd, 1880, a male Bee-eater is said to have been taken at Beverley, East Yorkshire, on the 5th of June, and that, on the 16th of August, another was shot at Tetney Lock, near Grimsby, Lincolnshire, as recorded in the same journal for September 11th, 1880.

Cormorant.—From Mr. J. H. Gurney, jun., I learn that no less than three of these former residents in Norfolk appeared on the Broads, in the neighbourhood of Yarmouth, about the middle of this month.

Snow Bunting.—In 'The Zoologist' for 1880 (p. 301) is a notice of a single bird of this species having been seen on Cromer beach as late as the 10th of May, flying about, at the time, in company with a common Sparrow.

June and July.

Spoonbill.—Three of these conspicuous, and of course persecuted, birds were seen on Breydon about the 12th of last month, and one appeared as late as the first week in July. All these,

apparently, escaped the gunners, and some six or eight, altogether, are said to have visited that neighbourhood at different times in the spring and summer.

Jack Snipe in June.—Mr. C. H. Bird, of Somerton, near Yarmouth, informed me that Mr. G. Boult, jun., saw a Jack Snipe this year (1880) at Winterton, on the 26th of June; and that he and Mr. Boult together saw three Jack Snipes, and shot one, in the Potter Heigham marshes on the 16th of July, 1879. I know of more than one instance of single birds having been met with in Norfolk in June.

Starling and Sky Lark.—On the 7th of July, Mr. J. H. Gurney, jun., saw a cream-coloured Starling at Hethersett, near Norwich, with a flock of some five or six others in the usual plumage; and on the previous day, at Northrepps, an exceedingly light-coloured Sky Lark, almost isabelline in tint.

Pochard.—Mr. A. Patterson, of Yarmouth, states, in the 'Eastern Daily Express' of July 16th, that he had seen, that day, in a poulterer's shop, a Pochard in quite an immature state of plumage which had been killed at Martham.

Short-eared Owl.—As an evidence of this species still nesting in Norfolk, I can record that an immature bird, with young feathers on the head, was shot at Dilham about the 16th of July. Mr. M. C. H. Bird, of Somerton, also informs me that a pair bred at Winterton in 1879, and another pair, at Somerton, in the summer of 1880.

Hawfinch.—A young bird in its nestling plumage was killed at Forncett on the 9th, and an old one was shot from a cherry-tree, at Fundenhall, on the 14th.

Roseate Tern.—An adult male of this rare Tern, now in Lord Lilford's collection, was shot by Mr. G. Hunt, near Hunstanton, on the 12th of July. Colonel Irby, who identified the species, informs me that another was seen at the same time, and their peculiar note attracted attention. Hitherto this species has been included in the Norfolk list, on the authority, only, of the late Mr. Youell, of Yarmouth, as cited by the Messrs. Paget, but no specimen is forthcoming to verify that statement.

Night Heron.—An immature specimen in the possession of Mr. Gurney Buxton was shot by Major Upcher at Ranworth, and was taken to Mr. Cole to be stuffed, on the 22nd of July, but, being then in a "forward" condition, had been killed, no doubt, some days before.

Hooded Crow in Summer.—Mr. G. Cresswell, jun., informed Mr. Southwell that a pair of these birds were constantly seen, this summer, in the neighbourhood of Wolferton Wood, on the Prince of Wales' estate. A gamekeeper tried to shoot one at the time the young Pheasants were leaving the coops.

Sheldrake.—Mr. Cremer informs me that two good broods were reared at Blakeney this year, but fears that all were killed off, and the old duck, of the largest brood, shot in July.

August.

Arctic Tern.—On the 11th Mr. T. W. Cremer shot two Terns of this species at Blakeney, and as the colony of Terns had much increased there this summer, and had not been molested, it was supposed that both Arctic and Common Terns had remained to breed.

Spoonbill.—A male Spoonbill was shot on the 22nd of August, by Mr. G. Cresswell, in Terrington Marsh, one of two that had been seen in that neighbourhood for some time previously.

September.

Sandwich Tern.—A female, one of a pair seen on Breydon, was shot on the 8th.

Spoonbill.—A single bird was seen for several days about Breydon, during the first week in this month.

Cormorant.—An immature bird was killed about the second week in this month, near Yarmouth.

Hoopoe.—A male was shot out of a turnip field, near Holt, on the 22nd. I also heard of one killed about the same time in the neighbourhood of Maldon, Essex.

White Swallow.—Mr. Dack, of Holt, received a white Swallow on the 18th, killed near that town. A very pretty variety of this species was also seen at Beeston, near Cromer, in August, by Mr. T. W. Cremer. This bird was white, with the exception of the brown gorget on the throat, and the back, which seemed to be of a light buffy tint.

Gannet.—Early in this month an adult Gannet was caught, at sea, off Blakeney, apparently asleep at the time, and being in poor condition was probably ill.

Manx Shearwater.—Two or three were seen on different occasions this month, by Mr. Power, from half a mile to two miles off the coast at Cley.

Solitary Snipe.—Between the 3rd and 20th of September a rather unusual number of Snipes of this species appeared in the neighbourhood of Yarmouth and Lowestoft, of which I heard of some seven or eight examples. One was also killed at Beeston, near Cromer, on the 18th, and another at Cley, about the same time. Mr. A. Patterson, of Yarmouth, found two of these to weigh 7 ozs. and 7¼ ozs. respectively, and a third reached 7½ ozs.; but one recorded in 'The Field' of September 25th, as shot at Carlton Colville on the 17th, was said to have weighed 11 ozs., which being one ounce more than the heaviest bird that ever came under Mr. Lubbock's notice, I should consider extremely doubtful.

Grey Phalarope.—A solitary specimen was shot at Cley on the 20th.

Pomatorhine Skua.—Not more than two or three of these birds, and in more or less immature plumage, were, I understand, brought into Yarmouth by smacks this autumn. Mr. J. H. Gurney, jun., shot one near Cromer on September 16th.

October.

Great Grey Shrike.—This irregular migrant has occurred in unusual numbers this autumn. I have notes of five or six, shot or seen between the 8th and 27th of this month. Two at Yarmouth, one at Gorleston, one at Fundenhall, near Wymondham, and one seen at Trimingham on the 20th.

Shore Lark.—Between the 12th and 31st of this month I heard of about fifteen shot at and near Yarmouth. One man is said to have found a flock of six, on the sands, near the Rifle Butts, which he shot one after another, the survivors rising and alighting again at a short distance till the last was killed.

Little Gull.—An immature bird was shot on Breydon on the 2nd.

Great Crested and Sclavonian Grebes.—Five Great Crested and an immature Sclavonian Grebe were killed at Yarmouth about the second week in October.

Spoonbill.—Col. Coke informed me, on the 29th, that he had seen, that morning, a single bird of this species which had taken up its quarters on an island in the lake at Holkham. One had also been seen on Breydon, on the 27th.

Shag.—An immature specimen of this bird, scarce on the

Norfolk coast, was caught off Beeston, on the 7th of October, and is now in the collection of Mr. J. H. Gurney, jun.

November.

Storm Petrel.—Two of these wanderers from the sea coast were brought to Mr. Cole, birdstuffer, of Norwich, having been taken at Harford Bridges, near this city, on November 1st, after a smart gale from the N.W. on the previous night.

Great Grey Shrike.—Two more specimens, one from Rockland and one from Brancaster, were sent up to Norwich on the 12th, and, near Yarmouth, one was killed at Burgh on the 5th, and another at Ormesby on the 9th. I saw also two others, killed during this month near Norwich. Both of these had fed on mice. The bird from Brancaster, on the 12th, is probably the one recorded in 'The Field,' of November 20th, as having a dead sparrow in its mouth. The same correspondent (from Titchwell) also states, in 'The Field' of November 27th, that he had since seen two others perched on a high fence on the road between Docking and Brancaster, about half a mile from the spot where the first was shot. Mr. Dack, of Holt, had one picked up dead in a chalk-pit there, on the 4th. Mr. Fountaine, of Easton, near Norwich, had also one brought to him alive, near the end of the month.

Little Crake.—Mr. B. C. Silcock informs me that, in the second week of this month, he received a bird of this species which had been shot in the marshes adjoining Hickling Broad.

Common Snipe.—About the middle of this month a fine example of the so-called Russet Snipe, the *Scolopax russata* of Gould, was shot at East Ruston, and was sent to Mr. Roberts, of Norwich, for preservation. From the bright, ruddy tint of the plumage it was, I should say, a bird of the year, with the beak measuring $2\frac{7}{8}$ in., a marked feature in this large variety of the Common Snipe, for I cannot credit it with specific rank.

December.

Shore Lark.—On the 2nd Mr. G. Smith, of Yarmouth, sent me a pair of these birds alive which had been caught in a clap-net that morning at Yarmouth. They were fine, healthy birds, and, on being turned into my aviary, consorted at once with the Snow Buntings. Mr. Power shot two out of four seen on Salthouse

beach between the 7th and 9th, and on the 17th Capt. Feilden found a flock of seventeen, of which he shot two. An old gunner of that district, who accompanied him, assured him "he had known that kind of bird to appear there every year, as long as he could remember, and they always called them Buntings, same as the white-winged sort." This flock was very tame and allowed him to come close up to them as they ran about, searching for food, just inland of the Marram hills, on the east side of the mouth of the harbour. On the 21st two were shot at Holkham, and on the 19th and 20th four more on Yarmouth beach.

Hawfinch.—A pair were killed at Filby on the 3rd, and two males and a female somewhere near Yarmouth on the 27th of the previous month.

Pink-footed Goose.—About the 10th of this month two geese of this species were shot at Hickling and seven at Martham. There were said to have been ten in the former flock and thirteen in the latter.

Spoonbill.—A single bird, a female, was shot at Wells on the 13th.

Glaucous Gull.—A young bird was shot on Breydon on the 20th of December, and a fully adult specimen at Knapton late in October.

Great Grey Shrike.—The Rev. E. T. Frere informs me of, probably, the latest specimen obtained this year, which was shot at Diss on the 18th.

Ducks and Divers.—Amongst the few records of hard-weather fowl in my notes for 1880 may be mentioned—an immature Long-tailed Duck, January 12th, at Yarmouth. On the 31st of July, Mr. J. H. Gurney, jun., purchased in the Norwich fish-market a female Golden-eye, an unusually early date for this marine species. It had been brought in that morning by a countryman, but the fishmonger did not know where from; it was supposed, from certain portions of the plumage, to be a late bird of last year, and, possibly, a wounded bird unable to migrate. It was moulting, but in good condition. A good many Scaups and Wigeon were at Yarmouth about the middle of September, and I saw a young male Garganey on the 29th. In the second week of November a pair of Velvet Scoters were shot at Welney Wash, and an adult female Golden-eye, on Breydon, December 19th. Of Divers I saw but two or three specimens, this year, of the

Red- and Black-throated species, all immature; but I would draw special attention to the record of Mr. F. D. Power, in his notes from Cley (Trans. Norf. & Norw. Nat. Soc. 1881-82), of an extraordinary migration of Red-throated Divers, witnessed by himself and his brother, on the 1st of October; the only bird secured having a perfect red throat.

Raptorial Migrants.—An Eagle was seen at Billingford about the 26th of January, and on the 28th a young female Rough-legged Buzzard was shot at Stiffkey. A Peregrine was seen at Northrepps early in February; and, on the 14th, five large birds, supposed to be Buzzards, were observed at Thorpe, in the same neighbourhood. A Rough-legged Buzzard was also trapped at Bawburgh on the 12th. A Hobby was seen at Northrepps on the 17th of May, and an Osprey was shot at Yarmouth on the 29th, probably the same seen on several occasions at Burgh. Early in August several large Raptores, supposed to be Buzzards, were seen about Northrepps and Sherringham, and a young male Marsh Harrier was shot in that neighbourhood about the same time. On the 14th of September a Marsh Harrier was sent to Norwich from the neighbourhood of Cromer; a Merlin was seen at Blakeney on the 17th; and on the 21st Mr. F. D. Power shot a female Peregrine, on the beach, at Wells, and saw another on the 1st of October. On the 8th of October I purchased a finely marked, but immature, Rough-legged Buzzard, which had just been shot at Mousehold, near the city, and I heard of another killed in the same locality somewhat later. At the latter part of the month, also, this species appeared numerously on the coast about Northrepps, and up to the 30th Mr. J. H. Gurney, jun., had seen or heard of about sixteen in various parts of East Norfolk. Mr. A. Patterson, of Yarmouth, in the 'Eastern Daily Press' of October 19th, states that he had seen lately several Short-eared Owls obtained in that neighbourhood, and, on that morning, had watched "a Barn Owl come from seaward." A Tawny Owl was also shot at Stiffkey on the 1st. On the 25th a Peregrine was shot at Filby, near Yarmouth, and another was seen on the 30th between Eccles and Diss. November and December were also remarkable for the occurrence of Rough-legged Buzzards on the coast from Wells and Blakeney to Yarmouth and its neighbourhood. Some five or six were killed near Holt, where three and four were seen at a time; and Mr. G. Smith informed me that many large hawks

were observed about Yarmouth, and four shot, between the 3rd and 19th of November, were Rough-legged Buzzards. One also at Welney Wash, near Lynn, and three or four at Northrepps, were seen between the 1st and 22nd of the month. In December I have notes of two at Wells, two near Yarmouth, and one at Burnham Broom between the 3rd and 25th of that month. I am not aware that a single adult bird appeared amongst them, though varying much in plumage. On the 30th of November a Hen Harrier, much decomposed, was picked up at Northrepps; another was shot at Hickling on the 3rd; and a third at St. Olaves on the 8th—all I believe immature specimens. An Osprey also frequented the Hempstead ponds, near Holt, for nearly a fortnight in November.

Migratory Waders.—These migrants began to assemble on Breydon on the 12th of May, or "Godwit day," as it is called by the gunners, including Grey Plover, Turnstones, Oystercatchers, Knots, Godwits, and some Black Terns, remaining till about the 22nd. Three Whimbrel were also seen at Northrepps on the 3rd. A few Turnstones were killed at Yarmouth early in June, with Redshanks and Dunlins. By the 28th Pigmy Curlews, in red plumage were shot on Breydon, and a stray Whimbrel at Rockland, on the Yare. On the 19th of July, Mr. J. H. Gurney, jun., made a lengthened search, but in vain, for the nest of the Green Sandpiper, a pair having been seen repeatedly during the summer, on the margin of a pond at Cawston, near Aylsham (see 'Zoologist,' 1880, p. 404). A further search on the 4th of August was equally unsuccessful, and he is inclined to believe that the birds did not nest there after all. A bird of this species was brought to a Norwich birdstuffer about the first week in August, and several appeared at Yarmouth about the same time, with Turnstones and Little Stints (one obtained in full summer plumage), and Pigmy Curlews. Mr. G. Smith, of Yarmouth, states that, according to his observation, the last-named species retains its summer dress later than either the Knot or Godwits. On the 19th of August four small Sandpipers, supposed to be *Totanus hypoleucus*, were seen flying to and fro over the Antingham ponds, near Cromer. Early in September, Greenshanks, Bar-tailed Godwits, and Knots appeared on Breydon. About the middle of the month, also, a Ruff, two Oystercatchers, a Greenshank, Sanderlings and Knots (both reddish and grey), were obtained in the same locality. A Little

Stint, in full winter dress, was shot at Blakeney on the 17th. On the 27th of October a Green Sandpiper and some Sanderlings were seen at Cley, and about the second week in November two Purple Sandpipers were shot at the same place. Another example of this Sandpiper was killed on Yarmouth beach on the 3rd of December.

NOTES OF A NATURALIST ON THE WEST COAST OF SPITZBERGEN.

By Alfred Heneage Cocks, M.A., F.Z.S.

(Continued from p. 332.)

July 31st. The two "Fangst-baad,"* which had started soon after the 'Pallas' anchored yesterday afternoon with a shooting-party, returned early this morning, with three Ringed Seals, sixteen Brent Geese, some Eiders, &c. Chapman and I, with others (in all four Englishmen and four Norwegians), started at 5 a.m. in a ship's boat, and rowed north, intending to land on the north coast of Van Mijen's Bay (somewhere in the direction of Coal Mountain), for reindeer hunting, but found the north shore lined for a depth of perhaps five miles with compact ice, in front of which huge detached pieces were rushing out of the bay with a strong ebb tide, grinding and crushing against each other in a way that rendered it impossible for us to penetrate the struggling masses in a small boat. On the way we pushed through much loose ice, and on one piece we found a Ringed Seal sleeping, which allowed of our approach within one hundred yards without moving, when it was shot by one of the party clean through the head, so that it died instantaneously, without having

* A "Fangst-baad," literally hunting-boat, and usually translated Walrus-boat, or Sealing-boat, is a build of boat peculiar, I believe, to the Tromsö and Hammerfest walrus-hunters, and is a very different affair to an ordinary ship's boat, but is more like a whale-boat, and sharp at both ends. It is propelled by two or three pairs of sculls (not oars as used in most sea-boats), and steered by stroke, who sits facing forwards when accuracy of steering is desirable, but where pace rather than exact direction is required, turns himself round and sculls in the ordinary position, face to the stern. The harpooner, as in whaling, rows bow. The sculls are very short, and the whole boat is, for a sea-boat, very light. It carries a mast, with sprit-sail and foresail.

time to roll off the ice. We found birds of the usual species especially abundant off the south shore of the bay. We landed on Axel Island to reconnoitre, and from there obtained a splendid view of the seething masses of ice, as they ground their way out through the gut; it was a wonderfully beautiful and grand sight. We waited here for about two hours until the tide was slack, when the worst of the commotion in the ice was over and we were able to proceed. Over a great part of these islands the strata of the rocks crop out to the surface in a nearly vertical direction, and are full of fossils, and I filled my pockets with the best specimens that I could obtain without a hammer.* When we had rowed on for some time after leaving Axel Island, we found it impossible—at least during a day's expedition—to arrive at the north shore, in consequence of the compact barrier of ice; we therefore turned round, and again landed on the islands, on one of which we had a great, though unsuccessful, hunt after some Pink-footed Geese. The corner of the island on which we found the Geese was low-lying and almost entirely covered with moss, partially overgrown by which were numerous ribs and other bones of large Whales—probably the remains of *Balæna mysticetus*, killed during the old whaling days. On an island to the south of the principal island (and to the best of my recollection on its westerly or south-westerly shore, just where one would most naturally have expected it to be) I picked up a dead Whimbrel—the first and only specimen, I believe, recorded from Spitzbergen. It is little more than the mummy, or dried skin, of the bird, in the state one so often finds birds on the sea-coast,—all the flesh picked off the breast by Gulls or other birds,—and one is naturally inclined to explain its presence by inventing a theory of its having wandered northwards from Lapland or some part of the coast further to the east, or from Iceland further west and south,—perhaps blown off by a southerly gale, and dropping from exhaustion into the sea, a short distance from land, was washed up at the spot where I found it. It might also be suggested that it was killed at some point on the N.W. coast of Scandinavia, and falling at once into the sea was carried all the way to the Gulf-stream; but a strong objection to this is the question whether so small and delicate an object as a

* Such fossils as I brought home from Spitzbergen are now in the hands of my friend Mr. E. B. Poulton. F.G.S., who will, I hope, be able shortly to report upon them.

middling-sized bird could be carried so far by the sea,* and landed in so good condition. On this island we found many Eider Ducks nesting; we shot a few before we discovered they were so engaged, but the discovery did not deter the Norwegian sailors from bagging all they could for the salted-bird casks, the contents of which were to come in for their winter use at home, besides taking all the eggs and down they could find, and which amounted to a good lot. Intermixed with a sample of down I took hence there is a small amount of vegetable matter, chiefly lichen, and a few of the outside layer of barred feathers (as opposed to down). When not disturbed too suddenly the old ducks, before leaving their nests, cover up the eggs with down—I suppose not only to help to "keep the cold out," but more especially to hide them from the ever-watchful egg-stealing members of the bird community. I do not know whether all kinds of ducks do the same, but the common Wild Duck, *Anas boschas*, certainly does so. This habit of the Eider is mentioned by Nordenskiöld ('Voyage of the Vega,' vol. i., p. 124), but the other habit mentioned by him (*loc. cit.*) of their squirting over the eggs "a very stinking fluid, whose disgusting smell adheres to eggs and down," was not observed by us. It was a very pretty sight, on this island, to see a pair of Arctic Terns attacking, in the most plucky way, a Richardson's Skua, and driving him away from their nest. In this they succeeded so well that they brought him well up within range of me, and the next moment he was "grassed," with the tip (*i. e.* carpus) of one wing broken, but otherwise none the worse. Here was a good opportunity for bringing home a specimen for the Zoological Society, so I bound up with some string, not only his injured wing, but the other one as well, so as to preclude all bating, and then tethered him to a stone with another string fastened to his legs, until I was ready to take him to the boat. I may as well here finish this bird's history. I got him safely on board on our return to the 'Pallas,' and tethered him securely to a ring-bolt in the waist of the ship, in a nice retired spot between the foremast and a meat-safe, so that there might be no excuse for his going overboard when a gangway was opened, after the example of the Fulmars. On going to see after him the following morning, I found the piece of string neatly coiled down, with one end still

* A distance of about 500 miles, according to the point of the coast whence it came.

attached to the ring-bolt, but no Skua at the other end. After some enquiry, the Stewardess confessed that she had seen a drop of blood on the bird, and thought it very cruel to keep it alive, and had therefore incited some one else to wring its neck and throw it overboard, though more probably it found its way into one of the salted-bird casks. Not far from the spot where I picked up the Whimbrel were a pair of (probably) Gray Geese. On the main island Chapman saw a brood of young Snow Buntings. On the way back to the ship I obtained a Northern Puffin, and although I shot four or five others afterwards, and most of the sportsmen likewise obtained a few, yet the total was quite a small number, and included shooting at nearly every individual that gave one a chance, in marked distinction to the Guillemots, Kittiwakes, Eiders, Little Auks, &c., in about that order. As we passed, in the evening, what appeared from the boat to be the mouth of a small river (not marked on the chart), near the north point of the Middle Hook, a school of White Whales rushed past us, heading northwards, in the muddy water between us and the shore. The other boats this day secured two more Ringed Seals; others were killed, but sunk and were lost. We brought back with us in the boat a quantity of Eider Ducks, Brünnich's Guillemots, &c., shot by the Norwegian sailors during the day for the salted-bird casks.

August 1st. Chapman and I started early in the morning with Kjeldsen (one of our ice-pilots) and his boat's crew, in his "Fangst-baad," up Van Keulen Bay; stormy all day, half-gale from west, making a lumpy sea; snow showers during first few hours; temperature of sea-water at surface, about 8 a.m., 32° Fahr. At about a short hour's row from the ship we saw four old Pink-footed Geese, which Kjeldsen, who was ashore, put up before we could land in pursuit. A little farther on we saw a pair of Brent Geese, accompanied by two or three goslings, running along shore, and rather farther inland were a good many more, perhaps twenty or thirty, adults and young, of the same species. We landed and gave chase at once; not one of them could fly, the goslings being too young, while the geese had all moulted their quills; but we might just as well have tried to run down hares, without dogs, as Brent Geese on this rough ground. They easily distanced us, goslings and all, and a long run taking them over a brow, they apparently squatted down somewhere among the stones, for when we arrived at the top of the brow not a bird

was to be seen, and though we devoted a good time to the search we could not again find them. Further up the bay we landed for a Reindeer hunt up a valley running at right angles to the long axis of the bay. We walked a good way inland, but saw no deer, nor did we even find any recent traces of them. On a gentle slope, which was pretty well covered with various plants, and some distance from the coast, we found four little Purple Sandpipers, hatched, I imagine, within the last three or four days. Chapman and I gave chase and soon captured one each, which we examined and then set at liberty again. We turned eastwards, and returned to the coast by the next valley to the one we had gone inland by, on the way collecting some fossils and round ball-like nodules of iron-pyrites (?). Hereabouts also one of our boat's crew began collecting scurvy-grass (*Cochlearia*), which the Norwegian walrus-hunters call "Sur-græs"—a name unknown to the dictionary. The supply being plentiful, it afforded an excellent salad with our *al fresco* dinner. At the place where we landed for Reindeer, from one to two hundred yards inland, we found a pair of Arctic Skuas, which had a nest hatched out; after a search I found one of the egg-shells, but we did not succeed in finding the young birds. The performance gone through by the old birds was most amusing and pretty, being the best bit of acting by old birds, in drawing one away from their young, that I have seen. The usual business—broken wing, broken leg, broken everything—were all enacted in turn, in the intervals flying close round us, with a cry just like the bark of a somewhat wheezy toy-terrier; then down they would go on the ground again, close by us, and every variety and state of helplessness would be again acted to the life. Nordenskiöld refers to the acting powers of this species in the 'Voyage of the Vega' (vol. i., p. 122), and Saxby, in his 'Birds of Shetland' (p. 357), describes it. With regard to the foot-note by the Editor of the latter work (p. 356), to the effect that the local name for this species, to be spelt "bosun," was a "term used in Norway," I suspect that his friend who told him so had simply heard it used by a seaman who had learnt English. The regular Norwegian name for this bird, and the only one I have heard used,* is "Tyvjo": Swedish, "Tjufjo"

* The dictionary gives "Kjove" and "Strand-hög," but I have not heard either of these names used in Norway, and they are very possibly restricted to Denmark.

(as given by Nordenskiöld). On again reaching the boat we proceeded up the bay, which was quite free from ice right up to its head; it terminates, in true Spitzbergen fashion, in a large glacier. We presently found ourselves among some White Whales, one of which came up quite close ahead of us. We saw several Ringed Seals swimming during the day, at most of which Kjeldsen and I, who had rifles, fired one or more shots, but so violent and constant were the movements of the boat, in consequence of the roughness of the sea, that we could not contrive, despite our frantic efforts, to hold our rifles straight enough to kill one. During the afternoon, however, one finding itself perfectly safe amid the ineffectual hail of Kjeldsen and myself, made bold to swim up within fifty yards of us, whereupon Chapman slipped a ball-cartridge into his shot-gun, and a shot-gun being adapted for snap-shooting, which a rifle is not, he put a bullet into its head, killing it, of course, instantaneously. We also had shots at an enormous Seal, which Kjeldsen pronounced a "Stor-kobbe," and which was doubtless that species (*P. barbata*). About half-way along the north shore of the bay, somewhere near "Breakfast Point," we found a good deal of driftwood. Chapman and I this afternoon each procured a good Eider drake. As a rule we found them exceedingly wary, keeping well out of harm's way, while the ducks could be easily shot in large numbers.

August 2nd. On the way back, near Eders Island, I caught a glimpse of a bird flying behind me, which I believe to have been a Long-tailed Duck, but sitting as I was, rowing and rather cramped up, I could not screw round in time to get a better look at it. On an island near Point Ahlstrand, on the south side of the bay, about an hour and a half's row from the anchorage near Separation Point, where the ship was lying, we found a pair of Brent Geese. Eiders and Arctic Terns were breeding here, and I picked up some tufts of feathers which had belonged to immature Glaucous Gulls, which had apparently been eaten by other birds, which tufts Kjeldsen believed to have belonged to Snowy Owls—indirect evidence, I think, that this was a bird he had previously met with in Spitzbergen, though I do not remember whether he said he had ever done so, or not. When near the Pallas (about 3 a.m.) we saw a few Brünnich's Guillemots, accompanied by their young ones, about which they were very anxious: the young could dive well. Two of the sportsmen of our party, who had been away

for a long day with Johannesen, another of our ice-pilots, in his "Fangst-baad," had succeeded—the ice having dispersed—in reaching the Reindeer valley on the north side of Van Mijen's Bay, which we had been unable to reach on the 30th, and had killed five deer out of seven seen. Johannesen shot the only good head, which he cut off and left behind, to save the additional labour in porterage. I was offered either of the other heads, but the horns being still in the velvet, and not fully hardened, I did not think them worth preserving. We arrived off the entrance of Is Fjord about 6.30 p.m., and charged through ice about a foot thick for a quarter of an hour or twenty minutes, and soon afterwards anchored in Green Harbour, not so far up as on our previous visit.

August 3rd. Chapman and Faussett, with Kjeldsen, landed, and proceeded up "the big valley," an old friend, to the eastwards, and had "a laborious stalk" after Reindeer, "worked hard all day, but to no purpose." They "saw no deer, nor even any birds at all, save a few Snowflecks with newly-hatched young, and a Glaucous Gull or two seeking what he might devour." On their way back they met another party of sportsmen from the 'Pallas,' returning also empty-handed. They had been nearly twenty miles up the valley, and only seen five deer, which were too wild to give a good shot. As we had heard last night, much to our surprise and chagrin, that this was to be our last day in Spitzbergen, I wished to utilise it, as far as possible, in making up deficiencies in my collection of birds, but only got away with Johannesen in his "Fangst-baad," about the middle of the day. Found the usual birds about, but in very much reduced numbers, and instead of the large flocks to which we were accustomed, nearly all the birds were now flying singly, with a few pairs among the Little Auks, Mandt's Guillemots, and Puffins. The Puffins being in about their usual numbers, were comparatively much commoner than hitherto. I secured some specimens during the afternoon, but was obliged to call for several of the party who were ashore, and bring them on board in time for dinner. From 10 till midnight I again went out in the "Fangst-baad," and obtained specimens of seven species of birds, *viz.*, Brünnich's and Mandt's Guillemots, Little Auk, Puffin, Eider Duck, Purple Sandpiper, and an immature example of the Glaucous Gull, of which only three others were seen during the voyage, while adult birds were quite common;

this individual was with both parents,—at least two old birds,—one of which I could easily have shot. As we were passing the site of the old Russian hut, on the S.W. shore of the harbour, I saw a Turnstone flying quietly, or rather flitting, close along the shore edge. I landed as quickly as possible, and was lucky enough to secure it, as it is the first specimen recorded as obtained in Spitzbergen. I only saw one Skua all day, and that was wheeling about, as we rowed back at midnight, among some fishing-vessels which were anchored close astern of the 'Pallas.' A Little Auk which I shot this afternoon had the pouch beneath the lower mandible greatly distended with a large quantity of small transparent shrimps, apparently young ones, of which I have brought home specimens. I went on board a Bergen fishing-sloop, the 'Eyvind,' and found lying on deck about five Brent Geese, which had been shot in Bell Sound the day before, also a live gosling and a dead one in down. Johannesen made bids for the live gosling, but the captain of the 'Eyvind' did not want to part. The goslings were very different from those of the Pink-footed species, which we had had on the 'Pallas.'

August 4th. Weighed anchor for the south at 0.30 midnight—so that our rascally *entrepreneur* might say we had left on the 4th. During the day, as we coasted along, we saw Fulmars, Brünnich's and Mandt's Guillemots, Little Auks, Puffins, &c. We left South Cape behind us early in the afternoon, and at 9.30 p.m. came to heavy pack-ice, which obliged us frequently to stop, and for the remainder of the evening and through the night we steered to every point of the compass, a very thick fog not facilitating matters, while the combination of ice and fog made it extremely cold.

August 6th. Thick fog all day. Passed the latitude of Bear Island during the forenoon without getting a glimpse of it. I was busy below bird-stuffing nearly the whole day, and have no note of so much as a single bird; but so thick was the fog that even had I remained on deck the whole time I should probably have had equally little to report.

August 6th. Fresh east breeze in morning, rising to gale a few hours later, ship rolling heavily all day. The fog lifted this morning before a rapidly freshening breeze. Sighted Norway shortly before 2 p.m.; about 4 made the land, and found that instead of being opposite the North Cape, for which we were

bound, we were about straight for Tromsö, or somewhere about 150 miles out of our course! Fulmars still seen every now and then, also Kittiwakes and Guillemots (? Brünnich's or Common) occasionally. In the afternoon saw some small dark Petrels (perhaps Fork-tailed Petrels, *Thalassidroma Leachii*?). We saw a splendid mirage in the evening; two vessels on the horizon were reproduced, inverted, in the sky; of one, which was hull down, the reflection was continuous with the top of the masts, and slightly distorted; of the other, whose hull was clear of the horizon, the reflection was separated by a short interval from the trucks, and was almost a perfect reproduction of the original: both reflections were a good deal larger than the originals. The sun set straight for the first time since leaving the European continent.

August 7th. Anchored off the North Cape about 6.15 a.m.. the gale continuing in full force. Ashore the wild flowers were beautiful, and—after Spitzbergen—appeared to be in great profusion. In a small pool of water, close down to the sea, I caught some fresh-water shrimps, which I brought home in alcohol, We reached Hammerfest in the afternoon, and after a stay of three hours continued southwards.

August 8th. We arrived at Tromsö, and the next day I went ashore, leaving my fellow-passengers on board the 'Pallas' to continue the voyage back to Trondhjem and Bergen.

(To be continued.)

NOTES AND OBSERVATIONS ON BRITISH STALK-EYED CRUSTACEA.

By John T. Carrington, F.L.S., and Edward Lovett.

(Continued from p. 263.)

Paguridæ.

This family is without doubt the most singular as well as the most interesting, especially when considered in relation to other forms, of the whole of the Stalk-eyed Crustacea; the remarkable abdomen, an almost simple membranous sac, would seem to favour the idea that the true position of the *Anomoura*, of which this family are the characteristic forms, is really at the foot of the

series, and that the crab-shaped forms were developed through the *Lithodes* or *Dromia* types, whilst the lobster-shaped forms obtained through that of *Galathea* or *Munida*; at any rate, the need of an artificial protection, such as the *Paguridæ* absolutely require for their very existence, implies a condition of existence so hazardous and precarious, that a state of things in which a naturally protected abdomen replaced one of so delicate and unguarded a nature would be far more conducive to the development of the species, or rather of allied species generally.

Another remarkable feature in connection with the *Paguridæ* is that, so far as is known, almost their sole protection has been the dead shells of Univalve molluscs. These molluscs would therefore have been in existence prior to the period when the defenceless condition of the *Paguridæ* required such protection. From this it would seem as if this group were really a degenerate form of the Crustacea, considering that the latter are older geologically, and therefore also in point of development, than the Gastropods, the highest forms of the Testaceous Mollusca.

In describing the *Paguridæ* we shall only enumerate the generic features when treating of *Pagurus Bernhardus*, and refer to the specific characteristics only of the rest of the species, and the points of identification.

Pagurus Bernhardus, Linne.

This is the largest, commonest, and therefore the best known species of this genus; in fact, it is the only one known, even to many observing individuals, and is therefore called "*The* Hermit Crab." The species is also known by the name of "Farmers" in Essex, and on the south coast are called "Soldiers."

The carapace is smooth, divided behind the cephalo-thoracic portion into two lobe-like portions; it has a short stunted rostrum. The eyes are fixed on stout short peduncles, and the antennæ are long and well developed. The anterior pair of legs are massive, unequal, and very roughly granulated; the next two pairs are also granulated and tapering to a sharp-pointed terminal joint, and the last two pairs are rudimentary. There are also pseudo-swimmerets, which, in the case of the female, are the processes to which the ova are attached. The abdomen is, as we have said, a membranous sac, but it is furnished with a small set of tail-plates, armed with powerful hooks, which serve as anchors

to its artificial dwelling. The protection in the adult form of this species is almost invariably the shell of the whelk, *Buccinum undatum*; but from observation we can say that this covering is by no means the safeguard that it is generally supposed to be. We have noticed a number of these animals in a large aquarium tank, where they throve fairly well, but although well fed they they were always ready to devour each other whenever an opportunity occurred. A large and powerful Hermit Crab would, by placing its smaller claw on the shell-abode and seizing its opponent—or rather, unsuspecting prey—with the large forceps, drag it out, transfer itself to the coveted shell, and seize its defenceless victim all in apparently one movement, so rapid was the robbery and murder carried out. Again, whenever a crab was robbed of its shell, without being eaten also, it exhibited a most pitiful terror, endeavouring to keep its head and forceps towards its enemies, and seeking some corner or rock-crevice for its temporary protection, but as soon as it saw an empty shell within a safe distance it seized it and transferred its soft abdominal segments to its friendly shelter with the rapidity of thought. If, however, these animals have sufficient warning to enable them to withdraw into their shelter, it is simply impossible to extract them by force. When used for bait, for which purpose it is largely taken, the whelk-shell is broken, and it is extracted in that way.

The colour of *P. Bernhardus* is a yellowish or brownish red.

The ova are of a pale greenish yellow, somewhat oval in shape, and are attached in groups to the pseudo-swimmerets of the female by rather strong viscid ligatures.

It is a common species and widely distributed, but varies much in size in different localities, those from the deeper parts of the North Sea being very large.

Pagurus Prideauxii, Leach.

As Prof. Bell remarks, in his work, this species resembles the foregoing in many respects; still there are points of strong specific difference, as well as other easy means of identification, to which we shall refer. Its chief specific characteristics are as follows:—Anterior portion of carapace more level than that of *P. Bernhardus*; superior as well as ambulatory feet less tuberculated, the latter being nearly smooth; eyes rather more

globular, and the size of the mature animal less than that of the the former species.

The very remarkable means by which this species may be identified when taken, and to which we alluded above, is one mentioned prominently by Bell as having been noted by Mr. Thompson—namely, that the shell in which this species lives is generally also the "locus" of an *Actinia*, *Adamsia palliata*. It appears, however, that Dr. Leach and Prof. E. Forbes do not seem to have been able to endorse this experience, although of the many hundreds of specimens that we have examined, from our southern waters only, it certainly was a remarkably constant rule. Another somewhat curious fact is that the shell in which this species lives is only large enough to protect the lower portion of the abdomen, and this shell is almost invariably *Trochus magus*.

The colour of *P. Prideauxii* is a pale reddish brown, with blue bars upon the legs.

The ova are of a rich burnt-sienna tint, and more globular than those of *P. Bernhardus*.

This species has been recorded from Loch Fyne, Strangford and Belfast Loughs, off Dundrum, and from Plymouth Sound. We have obtained it by dredging from near Guernsey and from the English Channel off the Sussex, Dorset, and Devon coasts.

Pagurus tricarinatus, Norman.

This species was described by Dr. Norman in the British Association Report, 1868, from three specimens obtained from deep water off Shetland. We have not seen it.

Pagurus cuanensis, Thompson.

This species, discovered by Mr. W. Thompson off the Irish coast, may be recognised by its having the anterior pair of legs shorter, more massive and hairy than the two first species of this genus. The eye-stalks are very long in comparison with those of *P. Bernhardus* or *P. Prideauxii*. It chiefly selects the shells of *Murex erinaceus* for its habitation, but is occasionally found in those of other molluscs.

This is by no means a widely distributed species, but has been recorded from Portaferry, Bangor Bay, Belfast Bay, Shetland (rare), Dublin (rare), Plymouth, Northumberland and Durham

coasts (rare), Cornwall, and Milford Haven. We have obtained it also from Guernsey, Jersey, and Devon.

Pagurus cuanensis is with ova in April.

Pagurus pubescens, Kroyer (= *Thompsoni*, Bell).

The general character of this species is allied to both *P. Prideauxii* and *P. cuanensis*, its limbs being spiny and hairy; the antennæ are long, and the eye-stalks cylindrical.

It is a rare species, and has been taken at Belfast, Shetland (where a variety occurs having the claws free from hairs), Dublin, Plymouth, Hebrides, and Berwick.

It is with ova in March.

Pagurus ulidianus, Thompson.

This species so closely resembles the young of *P. Bernhardus* that it is considered actually to be so by some; but Bell says that the head in the present species is more elongate, its sides more parallel, and the granulations on its surface more even.

It has been recorded from Portaferry, Galway, Belfast, Dublin, and Cornwall.

Pagurus fasciatus, Bell.

This species, though described as new by Prof. Bell, is considered by Spence Bate as "evidently *Hyndmanni*"; and as it was only described from a drawing, and has not, so far as we know, been again taken, it is difficult to form an opinion regarding it.

Pagurus Hyndmanni, Thompson.

This species has the carapace smooth, and rounded anteriorly; the forceps are also somewhat smooth and club-shaped; ambulatory legs slender and tapering, and eye-stalks stout. The colour of this species is pale dull red; and it is barely an inch in length.

According to Prof. Bell, *Pagurus Hyndmanni* has been recorded from Portaferry and Belfast Bay. It is also recorded from Shetland, Dublin, Galway, Northumberland, and Plymouth. We have obtained it from S. Devon, generally inhabiting the shells of a species of *Turritella*, to which characteristic Bell also bears testimony; also from the Channel Islands.

The ova are of a beautiful silvery green, and are exuded in February.

Pagurus lævis, Thompson.

This small Hermit Crab may be distinguished by its shining carapace, the anterior margin of which is waved; the peduncles are stout; and the superior legs are as usual unequal, slightly granulated, and armed with small serrations on the inner margin of the forceps.

The colour of the animal is dull yellow, with markings of a bright brick-red on the forceps.

Pagurus lævis has been recorded from Shetland, Galway, Moray Firth, Northumberland, Portaferry, and Falmouth. We have obtained it from Guernsey, where it was found to inhabit the shells of *Natica*, *Murex*, *Dentalium*, &c., and also from Torbay.

"Its ova is black" (no doubt when mature, as is generally the case in Crustacea).

(To be continued.)

OCCASIONAL NOTES.

Otters taken in a Bow-net.—It occasionally happens that Otters enter the bow-nets set for Tench, in pursuit of the captive fish, and being unable to extricate themselves are drowned. Two full-grown Otters, male and female, were thus found dead in a bow-net on one of the Norfolk Broads, on the 29th August last.—T. Southwell (Norwich).

Nesting of the Woodcock.—Two nests of this bird have come under my observation—one at Glengarriff, Co. Cork, in 1878; the other found by me in the Curraghmore Woods in May last, as mentioned by Mr. Ussher (*antea*, p. 307). In the former nest there were, I believe, four eggs; two of these hatched, and the other two were given to me for my collection; both were addled. The second nest contained three eggs, all of which, as previously recorded, were found to be addled when blown. Is it not strange that two out of four in one case, and the entire batch of eggs in the other, should have proved addled? Although collecting birds' eggs for some years, I may say that I have very seldom come across addled eggs. The only instance I can remember at present was in a nest of the Hooded Crow, in which—out of a clutch of five eggs—one was addled. Perhaps other observers would give their experience on this point. — William W. Flemyng (Portlaw, Co. Waterford).

Red-breasted Snipe in North-east Lincolnshire. — I recently obtained in the flesh an example of this North American Snipe, *Macrorhamphus griseus*, shot on the sea-coast between Cleethorpes and Tetney Haven on August 15th, and sent in by carrier to Grimsby for sale. It is an adult, changing from the Knot-like plumage of summer to the grey of winter, and was in an advanced state of moult. Mr. J. J. Dalgleish, in his 'List of Occurrences of North American Birds in Europe' ('Bulletin of the Nuttall Ornithological Club,' vol. v., April, 1880), has registered twenty-six supposed occurrences of the Red-breasted Snipe during the present century in Europe, sixteen of which, however, are marked as doubtful. In the ten undoubted occurrences the date of appearance has been either late in September or in October. — John Cordeaux (Great Cotes, Ulceby).

Ornithological Notes from North Northamptonshire. — Three instances of the Hobby, *Falco subbuteo*, breeding in our neighbourhood this summer have come to my knowledge. The first nest, apparently that of a Carrion Crow, was found about the third week in June, and contained three eggs, one of which was taken some few days after discovery, and is, with the two young birds subsequently taken from the said nest, now in my possession. The second nest, about which I have no particulars, was found some days after that above-mentioned, and contained one egg only; the young bird from this nest is also here. In the third instance the nest was not discovered, but two young birds just able to fly from tree to tree were closely observed by a friend and neighbour who is perfectly well acquainted with this little Falcon. In all three instances I am glad to say that the parent birds have, as far as I know, hitherto escaped destruction. A Manx Shearwater, *Puffinus anglorum*, was picked up in a field of mangold-wurzel near Cranford, Kettering, on the morning of August 24th, and sent off at once alive to me. It is needless to say that it was in a very weak and exhausted condition, and in spite of all our efforts to feed it, died a few days after its arrival. I observed nine Whimbrels, *Numenius phæopus*, flying up the valley of the Nen, near this house, calling loudly, on August 31st.—Lilford (Lilford Hall, Oundle, Northamptonshire, September 4th).

Snipe Perching.—Referring to the notes of Messrs. Whitaker and Backhouse on the perching of the Common Snipe, I beg to offer a few remarks on this somewhat vexed question. Though I have been well acquainted with this bird for fifty years or more, I never found one perching, —a pretty good proof that it is not its habit,—though I have heard of its doing so; and was informed some years since by the late Dr. Saxby that he had once seen a Snipe perch on a stone in Shetland. That the American Snipe perches I had ocular proof ere I had been many hours landed at St.

John's, Newfoundland; though the fact of my having found and shot four on the 23rd of July, 1857, when perched on snake-fences, was omitted from my notes published in 'The Zoologist' in 1858, because the editor (Mr. Newman) thought that I might have mistaken the species! Subsequently, however, when reminded that Buffon about one hundred and fifty years before had remarked on this habit, my note was inserted. That the American Snipe is a distinct species, though doubted by Buffon, Wilson, and other writers, is a fact, seeing that it has sixteen tail-feathers, and the Common Snipe of Europe but fourteen: it also varies somewhat in colour, and has the second quill margined with white on the outer web, which is not the case in the European species. A full and minute description of the American Snipe and its plumage will be found in the notes referred to.—HENRY HADFIELD (High Cliff, Ventnor, I. of W.).

NOTES FROM HUNSTANTON, NORFOLK.—On August 2nd Sanderlings were plentiful along the shore between Hunstanton and Holme. I shot five out of one flock, all mature birds in nearly full summer plumage, and, had I required them, could have obtained many more. Oystercatchers were very plentiful, frequenting the sands and mussel-banks: three specimens which I shot were all mature. I saw two Turnstones in full plumage, and observed Swifts frequenting the chalk-cliffs near the lighthouse, where they breed in considerable numbers (see 'Birds of Norfolk,' vol. i., p. 345). I got an adult female Turnstone near Holme Point on August 4th, and the same day noticed three or four Knots with red breasts. On August 10th I saw two large Waders, and dropped one to a long shot; it proved to be a male Bar-tailed Godwit, in quite as perfect summer plumage as any I ever obtained in May, in the days when that month used to afford such a rich harvest of migratory waders. The following day I got a mature Arctic Tern, and two young Turnstones out of a flock on the 12th. These latter birds became quite common about this time, and for several mornings I much enjoyed watching two which frequented the beach a little way beyond Hunstanton Station. They were very tame, and it was most interesting to see the business-like way in which they turned over the sea-weed. A more appropriate name than this local name of "tangle-picker" could not be found for these birds. On August 22nd I got a Sanderling (bird of the year) and two Dunlins in summer plumage. Besides the birds mentioned above, I clearly identified the Heron, Curlew, Whimbrel, Redshank, Common Gull, Lesser Black-backed Gull, and Little Tern. A specimen of the White-tailed Eagle, which I have not seen recorded in 'The Zoologist,' was shot near Hunstanton last winter. He frequented the neighbourhood for some time, especially the grounds of Hunstanton Hall, where orders were given for his protection, but he left this safe retreat for the bleak sand-hills or "meals" between Hunstanton and Holme; here he was unsuccessfully shot at again and again, on one occasion leaving behind him (to quote my

informant's words) "enough down to fill a peck-basket." However, he was at last stalked by an old gunner, who got a sitting shot at close range, aimed at the Eagle's head, and knocked him over—a most inglorious ending for so noble a bird!—JULIAN TUCK (Bucknall, near Stoke-on-Trent).

ADDERS SWALLOWING THEIR YOUNG. — The following incident was observed (as well as I can remember, in September, 1874) by myself, my brother Mr. B. Lancaster Rose, and Mr. George C. L. Lenox:—When shooting on Mr. Lenox's moor, near Newton Stewart, in Wigtonshire, one of us discovered an Adder coiled up on a sunny bank on the moor. Upon his calling to the others of us, we all gathered round, and we then saw the Adder, which by this time had been disturbed, with several young Adders round her. We then distinctly saw her open her mouth and allow the young to crawl down her throat, after which she was killed by having her head crushed with the heel of a shooting-boot. Having seen the young go down her throat, and being still able to see the movements of them inside her, one of us cut off her head, and some of the young thereupon crawled out of that end of the body. We then laid her body open through its entire length and found more young Adders, which were quite able to strike at the point of a stick when irritated by it. We all distinctly remember the above circumstances, and are quite certain that not only did the young Adders first crawl down their mother's throat, but also came out again from the head end of the body after the head itself had been cut off. We are quite certain that they were in the stomach, and not *in utero*. [illegible]uite recently we were not aware that it was otherwise than an admitt[illegible] that Adders swallow their young in a moment of apparent danger, or we should certainly have taken the necessary steps at the time for preserving the bodies of the Adder and her young.—GEORGE A. ST. CROIX ROSE; corroborated, B. LANCASTER ROSE, GEO. LENNOX LENOX (Rayners, Penn, Bucks, Sept. 1882).

GRANTS IN AID OF ZOOLOGICAL SCIENCE. — Amongst the various monetary grants for next year, made by the British Association at its recent meeting at Southampton in aid of scientific research, we observe in the department of Biology the following:—General Pitt-Rivers, for Photographs of the Races and principal Crosses in the British Isles, £10; Mr. Stainton, Record of Zoological Literature, £100; Mr. J. Cordeaux, Researches on the Migration of Birds, £20; Prof. Ray Lankester, Table at the Zoological Station at Naples, £80; Dr. Pye-Smith, Scottish Zoological Stations, £25; Sir J. Hooker, Exploring Kilimandjaro and the adjoining Mountains of Eastern Equatorial Africa, £500; Mr. R. Meldola, Investigation of Loughton Camp, Essex, £10; Mr. P. L. Sclater, Natural History of Timor-Laut, £50.

NOTICES OF NEW BOOKS.

The Coues' Check List of North American Birds. Second edition, revised to date and entirely rewritten under direction of the Author, with a Dictionary of the Etymology, Orthography, and Orthoëpy of the Scientific Names, the concordance of previous Lists, and a Catalogue of his Ornithological Publications. (Boston: Estes & Lauriat, 1882, 8vo, pp. 165).

This long title fully indicates the contents of Dr. Coues' latest contribution to ornithological literature, without the two other names with which the binder has ornamented the cover. Work in a fresh field from such an accomplished author is one which all who know Dr. Coues' previous writings cannot hesitate to welcome. The fertility of the writer's pen really seems amazing, when we observe in his Appendix here printed that during the last twenty years he has actually written three hundred articles and separate books on birds alone. Yet few writers have done more out-door work than Dr. Coues, and it is marvellous how he has found time for so much in the midst of his labours as an army surgeon, and a lecturer on human anatomy in a medical college besides.

The first edition of the 'Check List' was published in December, 1873, and it obtained wide currency on its re-issue a month afterwards in connection with the author's well-known 'Field Ornithology.' There, however, it was but a bare catalogue of scientific and vernacular titles, while here the list, revised with the utmost care and raised to include 888 species, is enhanced in value by the addition of explanations of the pronunciation and derivation of all the generic and specific names, together with much subsidiary information. We welcome such an addition by an American hand none the less because we know that a somewhat similar treatment of the names of our British birds has been undertaken by Mr. Henry T. Wharton for publication in the anxiously-expected 'Ibis' List to be issued by the British Ornithologists' Union. It is strange that a work of such interest and utility has never been comprehensively undertaken before, one which will now soon have appeared from both the Old World and the New.

Dr. Coues here enumerates all the birds hitherto found on the entire continent of North America, north of Mexico, and including Greenland. The original edition comprised 778 species, as against 888 in the present. This number is made up by the subtraction of six names, which are mere synonyms, and of four which do not actually occur within the prescribed limits, together with the addition of 120, most of the latter being newly-described species, discovered in Texas, Arizona, and Alaska since the publication of the 'Key.' Some of these Dr. Coues is inclined to regard as scarcely worthy of the rank of full species, but he includes them on account of their being generally received as such. The advance of Ornithology in North America is pretty clearly indicated by a table which Dr. Coues gives on p. 9, from which we see that the total of the birds of that country. given by Wilson in 1814, was only 283.

Perhaps there is nothing in this work of Dr. Coues which will grate so harshly on our Old World notions as his continued use of a trinomial nomenclature. We who strive, even if not always successfully, to follow the Stricklandian Code, and who believe that a binomial nomenclature is at once the simplest and the most useful, cannot but feel that any other system is both retrograde and misleading. For instance, to take the first example in the 'Check List,' if *Turdus migratorius propinquus*, is not *Turdus migratorius*, why not let it stand as *Turdus propinquus*? If it is only a variety of *Turdus migratorius*, why let it stand as a species, on the same footing as the type from which apparently it so slightly differs? Nomenclature is at best arbitrary; many a Thrush might be aptly described as *fuscescens*, "somewhat dark," but when we speak of *Turdus fuscescens*, and know the species to which that name was first applied, it is a matter of no real moment whether the name is apt or not. A Scotchman's name may be Black, but we do not consequently think of him as other than fair. Directly we cease to use names as nothing but tokens, in the strict sense, we introduce confusion. Trinomialism is simply an attempt to return to the old method that Linnæus is celebrated for having—as we hoped—caused his followers to discard naming a bird by a diagnostic sentence. If we use three names, there is nothing to prevent us from using a dozen, save, fortunately, the obvious confusion that would result. It is only to be hoped that the evil example of the

Americans will never be followed by European ornithologists. Nomenclature is sufficiently complicated already, without letting go of the principle of simplicity that has served so well zoologists and botanists alike for more than a century. There are many who think that the addition of one author's name infringes the principles of binomialism; what are we to do when two specific names are followed by the names of two authors?

Dr. Coues' preliminary remarks on "Orthography or Spelling" are clear and useful, but when he treats of "Orthoëpy or Pronunciation" we fear he is needlessly pedantic. Englishmen have so long, however erroneously, pronounced Latin words as nearly as possible as if they were English, that it is futile to expect reform in a matter where even scholars are undecided. Teach ornithologists uniformity by showing them where a vowel is long and where it is short, so that their pronunciation may not grate upon educated ears; but we can see no advantage to be gained by pronouncing *fuscescens* "foosaysaynce," or *virens* "wirraynce," or *amœna* "ahmwaynah," or *chen* "cane." Those who follow Dr. Coues' suggestions in this direction may *in* the end prove to be more or less correct, but they will certainly *to* the end be misunderstood. Even if it were possible to make every ornithologist a scholar on the modern lines, it is very doubtful if much would be gained. But false quantities are no more allowable than provincialisms or dropping h's; guard against these, and you cannot much farther go. However, for all his learning, Dr. Coues seems to think it sometimes allowable to make false quantities himself; he knows that *Lophophănes* is correct, but he "instinctively inclines" to *Lophophānes*. Instinct here seems to be the child of other people's ignorance; a somewhat novel definition! In speaking of *Troglodytes* he apparently would forsake the obvious pronunciation of the "dead" Greek poets, and adopt that of the modern Greeks, laying the stress on the vowel where the accent—by well-known laws—falls; chiefly, be it observed, because it is a trifle easier.

These remarks might seem ungenerous were it not for the unbounded gratitude with which we would fain greet Dr. Coues for his excellent researches into the origin and meaning of all the birds' names he has occasion to use. These form the great peculiarity and value of the present publication, and we most heartily commend them to the serious study of

every ornithologist, whether his work lie mainly in the field or in the despised "closet." Every explanation Dr. Coues gives ought henceforth to become the common property of every lover of birds; in them seems to lie the poetry of the application of the names.

In a review like the present it would be unprofitable to go through all Dr. Coues' remarks *seriatim*, but we may notice some instances where we think revision needful. His excellent index, in which the reader should observe that some corrections are made, renders references to the numbers of the names unnecessary. Yet even here the corrections are not always sufficient; for instance, the name *Atthis* seems to puzzle him, although it is simply taken from that of the beautiful maiden who was the beloved of the poetess Sappho—an apt idea to apply to a Humming-bird: to say, "it is also a proper name," does not convey much information.

Under *Regulus calendula* it is scarcely correct to say that *Calendula* "was apparently coined by Brisson, 1760." The word probably comes from *calere*, to glow; but it was used in botany centuries ago. Old Gerard, in his 'Herball,' 1597, says:—"The Marigold is called *Calendula*: it is to be seene in floure in the Calends almost of every moneth."

Motacilla, and words with a similar termination, have long presented difficulties, and Dr. Coues rather adds to the confusion. We have *motare*, to keep moving, as a frequentative of *moveo*, I move; the frequentative adjective from this would have been *motax*, of which the diminutive would be *motacula*, and the double diminutive *motacilla*. There is no reason to make a barbarous compound of a real Latin word and an invented Greek one. *Albicilla*, *atricilla*, &c., can all be similarly explained; our theory is not overturned by *albicilla* having been applied to an Eagle, as if it were not a diminutive; guessing is as old a practice as etymology itself.

Of *Ægiothus hornemanni*—which, by the way, is named after Jens Wilken Hornemann, who lived 1770—1841—it is not quite right to say "it is absolutely confined" to Greenland, seeing that a specimen was killed near Whitburn so long ago as 1855, and figured by Mr. Hancock in his 'Catalogue of the Birds of Northumberland and Durham'; and it is said to have occurred as far south as Abbeville.

Dr. Coues does not seem clear about the origin of the name Oriole, although it has been elaborately traced by Littré directly, along with the French form of the same word Loriot, from the Latin *aureolus*, golden. But under this bird, *Icterus galbula*, Dr. Coues gives a most interesting origin for the vernacular name "Baltimore."

No doubt *Perisoreus* does look very like a crux, and we could understand Dr. Coues indulging in a little imagination about it. But if he had looked it up in Agassiz's 'Nomenclature,' and seen that it was there derived from περισωρεύω, *accumulo*, I heap up all round, and that the inventor of the name, Bonaparte, was Agassiz's coadjutor in compiling that work, he would have saved himself a few lines. What the application of the name may be we are not sufficiently acquainted with the bird's habits to disclose, but it clearly has to do with the bird's affinity to the Magpie, and the well-known tendency to hoarding which that bird has.

The idea of Gyrfalcon being a corruption of Hierofalco is ingenious, and may very probably be true, but it lacks the historical basis upon which alone etymology can be sure. The German *Gerfalk* seems to point neither to "gyrate" nor to ἱέραξ, and it is quite certain that ἱέραξ, a hawk, has no etymological kinship with ἱερός, sacred. Prof. Skeat, in his lately published dictionary, is content to take Gyrfalcon to be "a falcon that flies in gyres;" though he gives a third alternative, the German *Geier*, a vulture, but, as that is probably cognate with *gyrare*, it does not complicate the question any further.

We can help Dr. Coues to an explanation of *hiaticula*. Charleton, at p. 109 of his 'Onomasticon Zoicon' (1668), says the name is given to the Ring Plover *quia circa fluminum alveos et rivorum hiatus versetur*, because it haunts the mouths (*hiatus*) of rivers.

There is a carelessness about deriving *Vanellus* from *vanus*, vain, that surprises us in the midst of so much erudition. The old spelling, *Vannellus*, and the French *vanneau*, leave no doubt as to the origin of the word being from the Latin *vannus*, a fan. Charleton (*l. c.*, p. 108) clearly says the name is given *quod alis, instar vanni seu ventilabri, commotis concussisque strepitum edat.*

Dr. Coues' corrections of obvious misspellings are among the most important of the changes he introduces in the present work.

But in his zeal to be right he sometimes guesses unnecessarily. For instance, the Godwit was known as far back as the time of Gesner as *Fedoa*; it is hardly right to alter this to *foeda* at the present day. Surely the application of *fœda* is as obscure as the derivation of *fedoa*. Alterations in spelling should never be made without the clearest evidence, and here the only evidence is ignorance.

Again, imagination carries our author away when he attempts to explain *Numenius arquata*. The "crescent-moon" suggestion is no doubt the correct explanation of the generic name, but we believe Mr. Wharton will show us a new meaning for *arquata* when at last the 'Ibis' List appears.

It is easy to say that *Harelda* is "a nonsense-word, invented by Leach" (1816), but it involves our endowing Willughby with an almost prophetic power. In his 'Ornithologia,' p. 290 (1676), he has a section describing, to use his own words, "*Anas caudacuta Islandica* Harelda *ipsis dicta*." Leach did not invent the name, but merely latinised an Icelandic form.

How far astray an etymologist may be led by guessing is comically illustrated by Dr. Coues' derivation of *perspicillata*. The true meaning of the word must be "covered with looking-glasses," from *speculum*, a mirror, in reference to the white patches on the head. For this idea, in common with many other of our emendations, we are indebted to Mr. Wharton, who has courteously allowed us a sight of some of his proof-sheets.

Notwithstanding the deficiencies we have found in Dr. Coues' book, it must be remembered that there are in it more than a thousand remarks concerning names which it would be mere flattery to commend. The book teems with information which it would take years of research to find elsewhere. Future ornithologists will be grateful for the knowledge of the persons from whom such names as *graciae*, *luciae*, &c., were taken, and Dr. Coues gives an interesting note on the pronunciation of his own name, together with a little genealogy, under *Arquatella couesi*. Any author might be proud of such a crown to his literary labours as the present 'Ornithological Dictionary' undoubtedly is to those of Dr. Coues.